WHAT IS CLAIMED IS:

1. A method of vision examination comprising:

displaying by computer control to each eye of a patient a plurality of patterns of contrasting horizontally oriented light and dark bands for visual stimulation;

detecting electrical signals representative of the patient's visual evoked potentials in response to sensory perception of each pattern displayed by connecting electrodes coupled with a visual evoked potential recording and measuring device to the scalp of said patient;

amplifying said electrical signals;

converting said signals to digitized data;

measuring said digitized data representative of said visual evoked potentials for each pattern of said plurality of patterns displayed;

comparing said data with predetermined values to determined if said data is faulty data;

detecting and recording the occurrence of said measured data being outside of said predetermined values thus indicating the occurrence of a fault;

displaying on a display device an indication of the occurrence of said fault; and

repeating the displaying of patterns and detecting said signals if a fault has been detected.

2. The method according to Claim 1, wherein the step of comparing said data comprises determining whether and recording the occurrence of any of said electrical signals reaching a maximum value of the output of a means for amplifying said electrical signals; determining and recording the occurrence of the Fourier component of said electrical signals at 60 Hz exceeding a threshold value; determining and recording the occurrence of said data abruptly jumping beyond predetermined ranges; and determining if and recording the occurrence of said electrical signals drifting by using an average algorithm to smooth out said electrical signals over a period time resulting in a curve of average signals versus time, integrating each segment of said curve and determining if the maximum value after segment integration exceeds a threshold value.

3. The method according to Claim 2, further comprising the step of selecting sample data from a plurality of samples of data corresponding and in response to the display of said patterns to said patient, calculating the mean value of a selected Fourier component of said electrical signals by vector summation, and determining if the distance between said mean value of each selected sample is within a predetermined distance from said mean value.

4. The method according to claim 3, wherein said distance between the mean value of said selected Fourier component is defined as $D = \sqrt{(Ai - \underline{A})^2 + (Bi - \underline{B})^2}$ wherein D is the distance; Ai and Bi are the amplitudes of the sin and cos respectively of the Fourier component; and $\underline{A}$ and $\underline{B}$ are the amplitudes of the sin and cos respectively of the mean.

5. The method according to Claim 4, further comprising the step of evaluating said data using discrete Fourier transforms and $Tcirc^2$ statistics

6. The method according to Claim 5, wherein said plurality of patterns comprises a series of said patterns, said series comprising six different patterns each displayed on said screen for a period of approximately one second consecutively in series, each pattern differing from the

other patterns of said series by the thickness of each said band, and wherein each eye of the patient is exposed to a set of five series of patterns.

7. A method for performing a medical examination comprising:

displaying sensory stimuli for perception by a patient;

detecting electrical signals representative of the patient's evoked potentials in response to sensory perception of said sensory stimuli;

converting said signals to digitized data;

measuring said data representative of said evoked potentials for each of said stimuli displayed; and

evaluating said measured data to determine if said data is faulty data by comparing said data with predetermined values, said data being faulty data if said data is outside predetermined ranges of said predetermined values.

8. The method for performing a medical examination according to Claim 7, further comprising recording the occurrence of faulty data.

9. The method for performing a medical examination according to Claim 8, further comprising the step of displaying said recorded data.

10. The method for performing a medical examination according to Claim 9, further comprising the step of displaying on a display device an indication of the occurrence of faulty data.

11. The method for performing a medical examination according to Claim 10, further comprising the step of repeating displaying of said sensory stimuli for perception by said patient in order to detect additional signals representative of said patient's evoked potentials in response to said repeated sensory stimuli.

12. The method for performing a medical examination according to Claim 11, further comprising the step of terminating displaying and measuring if said data equals a predetermined maximum without being fault free.

13. The method for performing a medical examination according to Claim 12, wherein said sensory stimuli are visual patterns for visual perception and wherein said evoked potentials in response thereto are visual evoked potentials.

14. A method for performing a vision examination comprising:

displaying a series of visual stimuli for observation by a patient;

detecting electrical signals representative of the patient's visual evoked potentials in response to said visual stimuli;

recording data representative of said electrical signals for each stimulus of said series of visual stimuli displayed;

measuring said recorded data;

comparing said data to predetermined values;

recording an occurrence of said measured data reaching the maximum output of an amplifier used to enhance said signals; and

recording an occurrence of said measured data exceeding a predetermined value at 60 Hz.

15. The method according to Claim 14, further comprising the step of recording an occurrence of said measured data jumping beyond a predetermined range of values.

16. The method according to Claim 14, further comprising the step of recording an occurrence of said measured data drifting beyond a threshold value.

17. A method of vision examination comprising:

displaying a plurality of visual stimuli for observation by a patient;

detecting electrical signals representative of the patient's visual evoked potential in response to each sensory perception of said visual stimuli;

amplifying said electrical signals;

converting said signals to digitized data;

measuring said digitized data representative of said visual evoked potentials for each stimulus of said series of visual stimuli displayed;

comparing said measured data with predetermined values to determine if said data is outside the range of predetermined values and therefore faulty data; and

recording each event that said measured data is faulty data.

18. The method according to Claim 17, further comprising the step of displaying said measured data.

19. The method according to Claim 18, further comprising the step of displaying on a display device an indication of the occurrence of an event that said measured date is outside predetermined ranges of said predetermined values and therefore faulty data.

20. The method according to Claim 19, further comprising the step of repeating displaying a series of visual stimuli for observation by a patient in order to detect additional data representative of said patient's visual evoked potential in response to said repeated display of visual stimuli.

21. The method according to Claim 20, further comprising the step of terminating visual display and recording of visual evoked potential signals when the amount of data detected equals a predetermined maximum without being fault free.

22. The method according to Claim 17, wherein said displaying said plurality of visual stimuli comprises presenting a series of varying patterns on a visual display screen, said patterns consisting of alternating and contrasting horizontally oriented light and dark bands.

23. The method according to Claim 22, wherein said series comprises a plurality of different patterns each displayed on said screen for a period of approximately one second consecutively in series, each pattern of a series differing from the other patterns of said series by the thickness of each band.

24. The method according to Claim 23, wherein each eye of the patient is exposed to a set of multiple series of patterns in order to generate fault free data.

25. The method according to Claim 24, wherein said plurality of patterns is six patterns.

26. The method according to Claim 24, wherein said multiple series is five series.

27. The method according to Claim 24, further comprising the step of varying the series and sets of displays after each series is presented for observation by said patient.

28. The method according to Claim 17, wherein said step of displaying said visual stimuli is initiated by computer control, and the steps of measuring and comparing said data with predetermined values is conducted by a computer software program.

29. The method according to Claim 21, wherein said step of detecting said electrical signals comprises connecting electrodes to the scalp of the patient and electrically coupling said electrodes with a visual evoked potential recording and measuring device.

30. The method according to Claim 29, further comprising the step of determining whether any of said electrical signals reach a maximum value of the output of an amplifier for amplifying and enhancing said electrical signals thus indicating saturation of said electrical signal and an indication that said electrodes are not properly connected.

31. The method according to Claim 30, further comprising the step of recording the occurrence of any of said electrical signals reaching said maximum value of the output of said amplifier.

32. The method according to Claim 31 further comprising the step of determining if the Fourier component of said electrical signals at 60 Hz exceeds a threshold value indicating that the impedance between said electrodes and said scalp of the patient results in faulty data.

33. The method according to Claim 32, further comprising the step of recording the occurrence of said Fourier component exceeding said threshold value.

34. The method according to Claim 33, further comprising the step of determining if said data abruptly jumps beyond predetermined ranges thus indicating faulty data.

35. The method according to Claim 34, further comprising the step of recording the occurrence of said abrupt jump.

36. The method according to Claim 35, further comprising the step of determining if said electrical signals drift by using an average algorithm to smooth out said electrical signals over a period of time resulting in a curve of average signals versus time, integrating each segment of said curve, and determining if the maximum value after segment integration exceeds a threshold value.

37. The method according to Claim 36, further comprising the step of determining if said data passes a scattering check.

38. The method according to Claim 37, wherein said scattering check comprises the steps of selecting sample data from a plurality of samples of data corresponding and in response to a series of visual stimuli displayed to said patient, calculating the mean value of a selected Fourier component of said visually evoked potential signals by vector summation and determining if the distance between said mean value of each said selected sample is within a predetermined distance from said mean value.

39. The method according to Claim 38, wherein said distance between the mean value of said selected Fourier component is defined as $D = \sqrt{(Ai - \underline{A})^2 + (Bi - \underline{B})^2}$ where D

is the distance; Ai and Bi are the amplitudes of the sin and cos respectively of the Fourier component, and A and B are the amplitudes of the sin and cos respectively of the mean.

40. The method according to Claim 39, further comprising the step of identifying data which is within said predetermined distance from the mean value and selecting data having the smallest distance from the mean value as the data to be relied upon.

41. The method according to Claim 40, further comprising the step of evaluating said data using discrete Fourier transforms and $Tcirc^2$ statistics.

42. A system for performing a medical examination comprising:

means for presenting a series of sensory stimuli for perception by a patient;

means for detecting electrical signals representative of the patient's evoked potentials in response to said sensory stimuli;

means connected to said detecting means for amplifying said signals;

means connected to said amplifying means for converting said signals into digitized data;

means for recording said data;

means connected to said recording means for measuring said data; and

means connected to said measuring means for analyzing said data and for comparing said data to predetermined values to determine if said data is faulty data.

43. The system according to Claim 42, wherein said means for presenting said series of sensory stimuli comprises a computer controlled visual stimulus generating device.

44. The system according to Claim 43, wherein said means for detecting electrical signals comprises a plurality of electrodes connected to the scalp of a patient, said electrodes coupled with a recording and measuring device.

45. The system according to Claim 44, wherein said means for converting said signals into digital data comprises an analog to digital converter.

46. The system according to Claim 45, wherein said means for comparing said data to said predetermined values comprises a computer program carried by said computer, said computer program consisting of algorithms for determining whether said electrical signals reach a maximum value of the output of said means for amplifying said electrical signals, and for determining if the Fourier component of said electrical signals at 60 Hz exceeds a threshold value, and for determining if said data abruptly jumps beyond predetermined ranges, and for determining if said electrical signals drift by using an average algorithm to smooth out said electrical signals over a period of time resulting in a curve of average signals versus time and integrating each segment of said curve and determining if the maximum value after segment integration exceeds a threshold value.

47. The system according to Claim 45, further comprising means for determining whether said electrical signals reach a maximum value output of said means for amplifying said electrical signals.

48. The system according to Claim 47, further comprising means for recording the occurrence of one of said electrical signals reaching said maximum output value.

49. The system according to Claim 45, further comprising means for determining if the Fourier component of said electrical signals at 60 Hz exceeds a threshold value.

50. The system according to Claim 49, further comprising means for recording the occurrence of the Fourier component of one of said electrical signals at 60 Hz exceeding said threshold value.

51. The system according to Claim 45, further comprising means for determining if said data abruptly jumps beyond predetermined ranges.

52. The system according to Claim 51, further comprising means for recording the occurrence of said data abruptly jumping beyond said predetermined ranges.

53. The system according to Claim 45, further comprising means for determining if said electrical signals drift by using an average algorithm to smooth out said electrical signals over a period of time resulting in a curve of average signals versus time, integrating each segment of said curve and determining if the maximum value after segment integration exceeds a threshold value.

54. The system according to Claim 53, further comprising means for recording the occurrence of said electrical signals drifting.